UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,112	09/10/2003	Kenneth L. Luskey	016325-003721US	6844

20350 7590 04/25/2006

TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER	
ANDERSON, JAMES D	

ART UNIT	PAPER NUMBER
1614	

DATE MAILED: 04/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/660,112	LUSKEY ET AL.	
	Examiner	Art Unit	
	James D. Anderson	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 50-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 50-63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/10/2006+*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Informalities

1. Acknowledgement is made of Applicant's Response dated 1/10/2006.

2. Claims 1-8 and 50-63 are currently pending and are the subject of this Office Action.

Specification

3. The abstract of the disclosure is objected to because it is not descriptive of the claimed invention. Correction is required. See MPEP § 608.01(b).

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112 – Written Description

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-8 and 50-63 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended claims recite a method of treating obesity. However, there is no disclosure in the Specification as to what

aspect(s) of obesity are being treated, e.g. whether the instant method treats obesity by inducing weight loss or treats the symptoms and conditions associated with obesity such as insulin resistance, Type II Diabetes, and hyperlipidemia.

Applicant's arguments filed 1/10/2006 have been fully considered but they are not persuasive. Examiner is aware that the Specification defines obesity and states that the present compositions can be used to treat obesity, among several other conditions. However, the Title, Abstract, and Summary of the Invention give no indication that obesity is among the diseases or conditions intended to be treated in the methods of the claimed invention. For example, the Summary of the Invention only describes a method of "modulating Type 2 diabetes in a mammal" and the Title and Abstract only mention the treatment of symptoms and conditions associated with obesity, namely insulin resistance, Type 2 diabetes, and hyperlipidemia. No working examples or description of a method are given in the Specification indicating the inventors had possession of the claimed invention (i.e. method of treating obesity).

Thus, despite the fact that the Specification defines obesity and states the instant compositions can be used alone or in combination therapy with other agents that are used in treating obesity, the Specification does not provide adequate written description of the use of the instant compositions to treat the underlying cause of obesity (i.e. overweight). A method of treating obesity would naturally include a reduction in weight in order to lower the body mass index (BMI) of the patient. However, the Specification makes no mention of the instant compounds being capable of reducing weight, nor does it clarify what aspects of obesity the instant compounds are intended to treat.

For example, if the method were drawn to preventing the onset of obesity, the method would have to prevent a person from becoming overweight (i.e. it would have to prevent weight gain). If the method were drawn to alleviating the symptoms or complications of obesity, the method would have to treat conditions such as Type 2 diabetes and insulin resistance, for example. If the method were drawn to eliminating obesity, the method would have to be capable of reducing the weight of a person who is obese so that their BMI is below the threshold that defines obesity. As recited in the instant Claims, the method is simply used for "treating obesity" and the Specification does not provide adequate written description as to what aspect(s) of obesity the methods are intended to treat.

In light of the above, the previous rejection of Claims 1-8 and 50-52 is maintained. Additionally, newly added Claims 53-63 are now rejected under 35 U.S.C. 112, First Paragraph (Written Description).

6. Claims 57-63 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly added claims recite that a second antiobesity agent is also administered to a mammal in combination with the compound of Formula I. However, the disclosure does not state in what dose the second agent will be administered.

There is insufficient written description for a combination therapy combining a second agent (antiobesity agent) with the first agent (compound of Formula I). The Specification describes a combination therapy wherein the compound of Formula I can be administered with an antiobesity agent. However, the disclosure does not state in what dosage the second agent will be administered. For example, is it the intent of the Applicant to administer the second agent at a comparable dose to that of the first agent (i.e. 1:1 molar ratio) or at a much higher or lower dose? There are no examples in the Specification of the present compounds being used in combination therapy to treat obesity and no guidance is provided as to what the dose of the second agent will be. No working examples or description of a method wherein the present compounds are administered in combination with an antiobesity agent are given in the Specification that would indicate the inventors had possession of the claimed invention (i.e. a combination therapy for treating obesity).

Thus, although the disclosure mentions a combination therapy to treat obesity, the Specification does not provide adequate written description of the use of the instant compositions in combination with another agent (i.e. dosages, ratios, etc.).

Claim Rejections - 35 USC § 112 - Enablement

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-8 and 50-63 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The instant Claims are drawn to a method of treating obesity. The Specification defines "treating" to include administration of a compound of the present invention to prevent the onset of, alleviate the symptoms or complications of, or eliminate the disease, condition, or disorder (see Page 13, Lines 10-14). Thus, the recitation of "treating" in the instant Claims would include the prevention or elimination of obesity, which is defined as a body mass index (BMI) of greater than 27.8 kg/m^2 for men and 27.3 $kg.m^2$ for women (Page 15, Lines 9-14). For said treatment to occur, the instant method would have to reduce weight (i.e. lower the BMI to below 27.8 kg/m^2 for men and 27.3 $kg.m^2$ for women). Undue experimentation would be required for one of ordinary skill to practice the claimed invention.

The factors to be considered in determining whether undue experimentation is required are summarized In re Wands 858 F.2d 731, 8 USPQ2d 1400 (Fed. Cir., 1988). The Court in Wands states: "Enablement is not precluded by the necessity for some

experimentation such as routine screening. However, experimentation needed to practice the invention must not be undue experimentation. The key word is 'undue,' not 'experimentation.'" (Wands, 8 USPQ2d 1404). Clearly, enablement of a claimed invention cannot be predicted on the basis of quantity of experimentation required to make or use the invention. "Whether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations." (Wands, 8 USPQ2d 1404). The factors to be considered in determining whether undue experimentation is required include: (1) the quantity of experimentation necessary, (2) the amount or direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability or the art, and (8) the breadth of the claims. While all of these factors are considered, a sufficient amount of *prima facie* case is discussed below.

The instant specification fails to provide guidance that would allow the skilled artisan to practice the instant invention without resorting to undue experimentation, as discussed in the subsections set forth below:

1. The quantity of experimentation necessary

The skilled artisan would expect the etiology of obesity to be complex and be caused by the interactions of multiple biological pathways and therefore, highly unpredictable, absent a clear understanding of the structural and biochemical basis for the absolute treatment of obesity. The instant specification sets forth no such

understanding or any criteria for extrapolating beyond those methods actually demonstrated.

The burden of enabling the treatment of obesity (i.e. the need for additional testing) would be greater than that of enabling a treatment for the symptoms of obesity in a human. In the instant case, the specification does not provide guidance as to how one skilled in the art would go about the absolute treatment of obesity (i.e. weight reduction) or how a human could be kept (i.e. prevented) from becoming obese. Further, there is no guidance provided as to a specific protocol to be utilized in order to prove the efficacy of the presently claimed method of treating obesity in a human. Specifically, it is highly unlikely, and the Office would require experimental evidence to a claim such as that of Claim 1, which claims to treat obesity (i.e. reduce weight or prevent onset of obesity) by the simple administration of a compound of Formula I, for example.

2. The amount of direction or guidance provided

The specification provides no direction for ascertaining how to absolutely treat obesity and the applicant has not demonstrated that the method of using a compound of Formula I, for example, can reasonably be expected, *a priori*, to exhibit the requisite reduction in weight necessary for the treatment of obesity. Further, Applicant has provided no guidance on how the compounds of Formula I could be used to prevent the onset of obesity, since, by their definition, "treatment" can include preventing the condition from occurring.

3. Presence or absence of working samples

Only a limited selection of specified methods for administering the compounds of Formula I are enumerated by the specification, and the working examples are even more limited. Although the applicant has demonstrated the use of these compounds for the inhibition of CYP2C9 (Example 7), the lowering of glucose (Examples 8 and 9), the improvement in insulin resistance and Impaired Glucose Tolerance (Example 10), and the lowering of cholesterol (Example 11), they have not provided any working examples demonstrating a reduction in weight that would be expected with a compound that treats obesity. Further, no examples are provided demonstrating that the compounds of the present invention can be used to treat the underlying cause of obesity. The above examples only show that the compounds reduce some symptoms and conditions associated with obesity, although no demonstration of weight loss is shown. In fact, no mention of the instant compositions being able to reduce weight is present in the disclosure.

4. The nature of the invention

The claimed invention relates to the absolute treatment of obesity, which by definition would include reduction in weight, i.e. reducing the BMI below the threshold of obesity as defined by the World Health Organization (see Specification, Page 15, Lines 9-11).

5. State of the prior art

Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults, NIH Publication No. 98-4083, September, 1998 represents a

standard publication in the art and as such is directed to those having skill in the art. To date, there are no known agents that can safely and solely be used to reduce weight in humans without side effects.

6. Relative skill of those in the art

The relative skill of those in the art is generally that of a Ph.D. or M.D.

7. Predictability of the art

Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults demonstrates the unpredictability of the claimed subject matter.

In the instant case, Claims 1-8 and 50-63 recite the limitation "treatment of obesity" however this particular condition is only briefly mentioned in the Specification. The Specification provides a definition of obesity and mentions that the compounds of the present invention can be used to treat obesity but does not disclose how one would use the present compounds to reduce weight. Although there are working examples of the present compounds being used to treat some conditions associated with obesity, no working examples or description regarding the use of these compounds for the treatment of obesity (which would necessarily include reducing weight) are present in the disclosure. The nature of the invention is complex, being directed to biological and physiological processes and the manipulation of those processes in obtaining weight loss in humans. The state of the prior art is silent with respect to whether or not these compounds are effective in eliciting weight loss in humans. Whether or not a particular biological molecule will have an effect on weight loss in humans is unpredictable, in that it requires empirical screening. In view of all of these factors and the lack of description

in the disclosure regarding the use of the present compounds in a composition for eliciting weight loss in humans, undue experimentation would be required of the skilled artisan to practice the claimed invention.

Given the above, it is clear that the art to which the instant invention relates involves a relatively high degree of unpredictability.

8. Breadth of the Claims

The Claims are drawn to the general treatment of obesity, which includes preventing the onset of, alleviating the symptoms or complications of, or eliminating the disease, condition, or disorder itself. By treating, the invention in drawn to both reducing weight (eliminating the condition) and/or preventing weight gain (preventing the onset of the condition).

Thus, the specification fails to enable one of ordinary skill in the art to practice and use the methods of Claims 1-8 and 50-63.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-8 and 50-63 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-17 of U.S. Patent No. 6,624,194, directed to a method of treating Type 2 diabetes; claims 1-17 of U.S. Patent No. 6,646,004, directed to a method of modulating insulin resistance; claims 1-6 of U.S. Patent No. 6,613,802, directed to a method of treating hyperuricemia; and claims 1-11 of U.S. Patent No. 6,262,118, directed to a method of treating Type 2 diabetes. Although the conflicting claims are not identical, they are not patentably distinct from each other because each of the cited patents disclose methods of treating conditions associated with obesity (see Applicant's disclosure on page 15, Lines 9-14) and would thus render the instant method of treating obesity obvious.

9. Claims 1-8 and 50-63 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 16-22 and 24-30 of copending Application No. 10/432,742, directed to a method of modulating insulin resistance and claims 1-9, 13-14 and 56-61 of copending Application No. 10/382,186, also directed to a method of treating insulin resistance. Although the conflicting claims are not identical, they are not patentably distinct from each other because each of the cited applications disclose methods of treating conditions

associated with obesity (see applicants disclosure on page 15, Lines 9-14) and would thus render the instant method of treating obesity obvious.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicant's arguments dated 1/10/2006 have been entered into the record. However, since the present application is not in a condition of allowance and other rejections are still pending, it is proper for Examiner to maintain the provisional rejection of obvious-type double patenting.

Conclusion

10. No claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Anderson whose telephone number is 571-272-9038. The examiner can normally be reached on MON-FRI 9:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low can be reached on 571-272-0951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James D. Anderson
Examiner
Art Unit 1614

CHRISTOPHER S. F. LOW
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600

JDA